

IN THE CLAIMS:

Please substitute the following amended claims for the corresponding original claims. A marked copy of the claim amendments is attached hereto.

Q1
4. (amended) A component according to claim 3 wherein the metal alloy comprises an yttrium content of at least about 5% by weight.

Q2
13. (amended) A method according to claim 11 wherein (a) comprises forming a metal alloy comprising an yttrium content of at least about 5% by weight.

Q3
50b1
32. (amended) An apparatus according to claim 31 wherein the metal alloy comprises an yttrium content of at least about 5% by weight.

Please add the following new claims:

Q4
36. (new) A component for a plasma process chamber, the component comprising:
a structure having a coating capable of being exposed to a plasma in a process chamber, the coating comprising yttrium-aluminum oxide having a compositional gradient through a thickness of the coating.

37. (new) A component according to claim 36 wherein the compositional gradient continuously varies through the thickness of the coating.

38. (new) A component according to claim 36 wherein the yttrium-aluminum oxide comprises YAG.

39. (new) A method of manufacturing a plasma process chamber component, the method comprising:

(a) forming a structure; and
(b) forming on the structure, a coating capable of being exposed to a plasma in the process chamber, the coating comprising yttrium-aluminum oxide having a compositional gradient through a thickness of the coating.

40. (new) A method according to claim 39 wherein (a) comprises forming a structure comprising a metal alloy composed of yttrium and aluminum, and wherein (b) comprises anodizing the metal alloy to form an anodized coating of the yttrium-aluminum oxide having the compositional gradient.

41. (new) A method according to claim 39 wherein (a) comprises forming a structure comprising aluminum, and wherein (b) comprises ion implanting yttrium and oxygen into the aluminum to form the yttrium-aluminum oxide having the compositional gradient.

42. (new) A method according to claim 39 wherein (b) comprises forming a coating comprising a compositional gradient of YAG.

43. (new) A component according to claim 1 wherein the integral surface coating comprises yttrium-aluminum oxide having a compositional gradient through a thickness of the coating.

44. (new) A method according to claim 11 wherein (b) comprises forming an anodized coating comprising yttrium-aluminum oxide having a compositional gradient through a thickness of the coating.

Amended

45. (new) A method according to claim 18 comprising treating a surface of the structure to form an integral surface coating comprising yttrium-aluminum oxide having a compositional gradient through a thickness of the coating.

SUB

46. (new) A method according to claim 25 comprising treating a surface of the structure to form an integral surface coating comprising yttrium-aluminum oxide having a compositional gradient through a thickness of the coating.

47. (new) An apparatus according to claim 29 wherein the integral surface coating comprises yttrium-aluminum oxide having a compositional gradient through a thickness of the coating.
